IN THE CLAIMS

Kindly replace the claims of record with the following full set of claims:

1. (Withdrawn)   A method of determining pixel drive signals to be applied to pixels of an array of light emitting display elements (2) arranged in rows and columns, with a plurality of pixels in a row being supplied with drive current simultaneously along a conductor associated with each of said rows (26), the method comprising:

determining target pixel drive currents corresponding to desired pixel brightness levels based on a model of pixel current-brightness characteristics;

modifying the target pixel drive currents to take account of:

a voltage on a corresponding row conductor (26) at each pixel within a row resulting from the drive currents drawn by the plurality of pixels and a dependency of the pixel brightness characteristics on the voltage on a corresponding row conductor at the pixel; and

determining the pixel drive signals from the modified target pixel drive currents.

2.(Withdrawn)   The method as claimed in claim 1, wherein each pixel is programmed in a first phase and driven in a second phase, and wherein the step of modifying the target pixel drive currents further takes account of any differences in a drive current drawn by the pixels between the first and second phases.

3.(Withdrawn)   The method as claimed in claim 1 , wherein the step of modifying the target pixel drive currents comprises:

applying an algorithm to the target pixel drive currents which represents the relationship between the currents drawn by the pixels in a row and the voltages on the row conductor at the locations of the pixels; and scaling the resulting values of said algorithm using a value representing the dependency of

the pixel brightness characteristics on the voltage on the row conductor.

4.(Withdrawn)   The method as claimed in claim 3, wherein applying an algorithm comprises multiplying a vector of the target pixel drive currents for a row of pixels by the inversion of ~~the~~ matrix M, in which:

$$
\mathbf{M} = \begin{bmatrix}
-2 & 1 & & & \\
1 & -2 & 1 & & \\
& \ddots & \ddots & \ddots & \\
& & 1 & -2 & 1 \\
& & & 1 & -2
\end{bmatrix},
$$

and wherein a number of rows and columns of matrix M is equal to the number of pixels in a corresponding row.

5. (Withdrawn)   The method as claimed in claim 3, wherein each pixel comprises:

a current source circuit (22,24) which converts an input voltage to a current using a drive transistor (22), and

wherein the scaling comprises using a value including terms derived from:

a voltage-current characteristics of the drive transistor (22); and a voltage-current characteristics of the light emitting display element (2).

6. (Withdrawn)   The method as claimed in claim 5, wherein the scaling comprises using a value further including a term derived from [[the]] a resistance (R) of the row conductor.

7. (Withdrawn)   The method as claimed in claim 6, wherein the scaling comprises using a value $(1-\alpha)R\lambda/(1+\lambda/\mu)$, where

R is the resistance of the row conductor between adjacent pixels;

λ is a slope of the drain-source current vs. a drain-source voltage curve of the drive transistor;

μ is a slope of the current vs. voltage curve of a display element; and

α is a ratio of the current drawn by a pixel during a pixel programming phase to the current drawn by the pixel during a display.

8.(Withdrawn)   The method as claimed in claim 7, wherein the value $(1-\alpha)R\lambda/(1+\lambda/\mu)$ used for scaling uses the slope of the drain-source current vs. drain-source voltage curve of the drive transistor and the slope of the current vs. voltage curve of the display element at the value of the first pixel drive current.

9.(Withdrawn-Previously presented)   The method as claimed in claim 4, wherein the result of multiplying a vector of the target pixel drive currents for a row of pixels by the inversion of the matrix **M** is obtained by a recursive operation

$$F(n) = F(n-1) + \sum_{j=0}^{n-1} I(j) + F(0)$$

,

in which:

F(n) is a nth term of a [[the]] vector result of multiplying the vector of the target pixel drive currents for a row of pixels by the inversion of the matrix **M**, F(0) being the first term; and

I(j) is the target current for the jth pixel in a row, the first pixel being j=0.

10.(Withdrawn)   The method as claimed in claim 9, wherein:

$$F(0) = \frac{1}{N+1} \sum_{j=0}^{N-1} (N-j)I(j)$$

,

in which:

N is the total number pixels in the row.

11.(Withdrawn)   The method as claimed in claim 3 , wherein the values representing the dependency of the pixel brightness characteristics on the voltage on the row conductor used for scaling are stored in a look up table (100)

12. (Withdrawn)   The method as claimed in claim 11, wherein the look up table (100) stores the values for a range of current values.

13. (Withdrawn)   The method as claimed in claim 11, wherein the values of the look up table are updated over time.

14. (Withdrawn)   The method as claimed in claim 13, wherein updating of the look up table values is carried out based on analysis of the characteristics of pixel compensation modules (110, 112, 114) of the display.

15. (Cancelled)

16. (Currently amended)   A display device comprising an active matrix array of pixel elements comprising current-addressed light emitting display elements (2) arranged in rows and columns and associated driver circuitry, said device comprising:

compensation circuitry for modifying target pixel drive currents to take account of a voltage at each of said ~~pixels~~ pixel elements and a dependency of a brightness characteristic associated with a corresponding pixel, the compensation circuitry comprising:

means (60,62,64,66,70,72,74,76,78,80,82,90,92) for applying an algorithm to the target pixel drive currents; and

means (100,104) for scaling the target drive currents by applying a value, representing the dependency of the brightness characteristic of the corresponding pixel element, on the voltage on a conductor associated with a

row containing the corresponding pixel element, said value being determined based on characteristics of the driver circuitry associated with the pixel element.

17.(Currently amended)   The   device as claimed in claim 16, wherein the means for applying an algorithm derives values corresponding to the multiplication of a vector of the target pixel drive currents for a row of pixel elements pixels by the inversion of the matrix M, in which:

$$
M = \begin{bmatrix} -2 & 1 & & & \\ 1 & -2 & 1 & & \\ & \ddots & \ddots & \ddots & \\ & & 1 & -2 & 1 \\ & & & 1 & -2 \end{bmatrix},
$$

and wherein a number of rows and columns of matrix M is equal to a number of pixel elements pixels in a row.

18. (Currently amended)   The device as claimed in claim 16, wherein each pixel element comprises:

a current source circuit (22,24) comprising a drive transistor (22) which converts an input voltage to a current and wherein the means for scaling determines the value derived from[[:]]

a current-voltage characteristic of the drive transistor; and a voltage-current characteristic of a corresponding current-addressed light emitting display element.

19.(Currently amended)   The device as claimed in claim 18, wherein the drive transistor (22) and the light emitting display element (2) of each pixel element are in series between the row conductor (26) associated with the row containing the corresponding pixel element and a common line.

20. (Currently amended)   The device as claimed in claim 19, wherein the value is derived from a drain-source voltage vs. a drain-source current characteristic of the drive transistor.

21. (Currently amended)   The device as claimed in claim 18, wherein the means for scaling the value is further derived from a resistance (R) of [[a]] the conductor associated with the row containing the corresponding pixel element corresponding row conductor.

22. (Currently amended)   The device as claimed in claim 21, wherein the means for scaling (100) the value is determined as: $(1-\alpha)R\lambda/(1+\lambda/\mu)$, where:

R is the resistance of the row a conductor between adjacent pixel elements pixels;

λ is a slope of the current vs. voltage curve of the drive transistor;

μ is a slope of the current vs. voltage curve of the display element; and

α is a ratio of a current drawn by a pixel element during a pixel programming phase to a current drawn by the pixel element during display.

23. (Currently amended)   The device as claimed in claim 17, wherein the means for applying an algorithm derives values by a recursive operation

$$F(n) = F(n-1) + \sum_{j=0}^{n-1} I(j) + F(0)$$
,

in which:

F(n) is an nth term of a the vector result of multiplying the vector of the target pixel drive currents for a row of pixel elements pixels by the inversion of the matrix M, F(0) being the first term; and

$I(j)$ is a target current for the jth pixel in a row, the first pixel being j=0.

24. (Previously presented) The device as claimed in claim 23, wherein:

$$F(0) = \frac{1}{N+1} \sum_{j=0}^{N-1} (N-j)I(j)$$,

in which:

      N is a total number pixels in the row.

25. (Previously presented) The device as claimed in claim 16, wherein the means for scaling (100) comprises a look up table.

26. (Currently amended)   The device as claimed in claim 25, further comprising at least one pixel compensation module (110,112,114), and further comprising means for updating values of the look up table to enable changes in pixel brightness characteristics over time.

27. (Currently amended)   Compensation circuitry for modifying target pixel drive currents for a display device which comprises an active matrix array of current-addressed light emitting ~~display~~ pixel elements arranged in rows and columns having a respective row conductor and a column conductor, the compensation circuitry comprising:

      means (60,62,64,66,70,72,74,76,78,80,82,90,92) for applying an algorithm to the target pixel drive currents which represents a relationship between currents drawn by pixel elements ~~pixels~~ in a row and voltages on a ~~row~~ conductor associated with the row at a corresponding location of the pixel elements ~~pixels~~ in the row; and means (100,104) for scaling the ~~resulting algorithm applied~~ target pixel drive currents by applying ~~using~~ a value, representing a dependency of a pixel brightness characteristic, to ~~on~~ the voltage on the ~~row~~ conductor associated with the row, said value being determined based on characteristics of a driver circuitry associated with a corresponding one of the pixel elements .

28. (Previously presented) The compensation circuitry as claimed in claim 27, wherein the means for applying an algorithm derives values corresponding to the multiplication of a vector of the target pixel drive currents for a row of pixels by the inversion of the matrix **M**, in which:

$$
\mathbf{M} = \begin{bmatrix}
-2 & 1 & & & \\
1 & -2 & 1 & & \\
& \ddots & \ddots & \ddots & \\
& & 1 & -2 & 1 \\
& & & 1 & -2
\end{bmatrix},
$$

and wherein a number of rows and columns of matrix **M** is equal to a number of pixels in a row.

29. (Previously presented) The compensation circuitry as claimed in claim 27, wherein the means for scaling comprises a look up table.